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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
07/702,615	05/17/91	BAINES	R F-8913(859-1

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21M1/0302

EXAMINER

TAMAI, K

ART UNIT	PAPER NUMBER
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2102

DATE MAILED: 03/02/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
07/702,615

Applicant(s)

Baines

Examiner

Tamai, Karl I.E.

Group Art Unit

2102



☒ Responsive to communication(s) filed on Feb 6, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 43-80 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 43-47, 49, 51-71, 73, and 75-80 is/are rejected.

☒ Claim(s) 48, 50, 72, and 74 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Jun 10, 1991 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Applicant's request for reconsideration in a personal interview with Steve Stephan regarding the finality of the rejections presented in the prior Office Action is persuasive and, therefore, the finality of that action is withdrawn.

A telephone interview was held on February 23, 1998 between examiner Karl Tamai and James A. Finder to discuss the newly amended claims. The examiner indicated that the broad claims would be rejected, but the specific embodiments may be allowable depending on the claim language. Mr. Finder requested an Official Action defining which art would be applied to the rejected claims.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the brush bodies having different sizes, the support arm with different dimensions from a corresponding part of the other support arm, and the brushes having different shapes must be shown or the feature canceled from the claim. No new matter should be entered.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

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Claim Rejections - 35 USC § 112

3. Claims 52, 58, and 78 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 52, 58, and 78 are vague and indefinite because it is unclear whether the applicant is claiming a brush support or a motor.
4. Claims 52, 53, 56, 58, 65, and 76 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. Claims 52 and 58 recites the limitations for a DC motor with a cylindrical commutator the and brush assembly of Claim 43. Claims 53, 56, 65, and 76 fail to further limit Claim 43 because they merely recite functional claim language without providing additional structural limitations.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 43-46, 52-60, and 76-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi and Pfatischer. Kobayashi teaches two electrically conductive support arms, axially spaced from each other with each arm substantially the same length and carrying a brush body(see figure 2). Kobayashi does not teach each arm having a different natural frequency of oscillation. Pfatischer teaches a brush assembly for a motor having a first and second brush with two different brush materials to electrically contact the rotor. Pfatischer figure 1 shows the carbon and copper brushes with the same shape, while figure 2 shows them with different shapes. Pfatischer teaches a third and fourth brushes supported diametrically from the first and second brushes. The examiner takes Official Notice that Copper and Carbon brushes of the same shape have different densities and weights. It would have been obvious to a person skilled in the arts at the time of the invention to construct the motor of Kobayashi with the different brushes because Pfatischer teaches that the different brush material would help maintain contact between the brushes and the commutator segments.

7. Claims 47, 49, 71, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi and Pfatischer, in further view of Muller et al.(Muller). Kobayashi and Pfatischer teach every aspect of the invention except the brush arms having different lengths/resiliencies. Pfatischer teaches that it is desirable to maintain contact between one of two axially aligned brushes during operation of the motor. Muller et al. teaches that it is known to maintain electrical contact between two brushes by using different length conductor arms so avoid simultaneously

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breaking contact with both arms. It would have been obvious to a person skilled in the arts at the time of the invention to construct the motor of Kobayashi with the different brush materials of Pfatischer and having different length support of Muller because Pfatischer suggests maintaining contact and Muller teaches that contact can be maintained by different lengths of slipping arms.

8. Claims 51 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi and Pfatischer, in further view of Mabuchi. Kobayashi and Pfatischer teach every aspect of the invention, as discussed above, except the brush being secured by interference fit. Mabuchi teaches a brush secured to a support arm by interference fit. It would have been obvious to a person skilled in the arts at the time of the invention to construct the motor of Kobayashi with the brush materials of Pfatischer, and having the interference fit brush of Mabuchi because the interference fit provides an effective means of securing the brush to the arm.

9. Claims 61-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi and Pfatischer, in further view of Baine. Kobayashi and Pfatischer teach every aspect of the invention, except the supports mounted on an endcap. Baine teaches the supports mounted on an endcap. It would have been obvious to a person skilled in the arts at the time of the invention to construct the motor of Kobayashi with the brushes of Pfatischer and having the arms of Kobayashi supported inside an endcap as in Baine because an integral endcap having the brush

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arms and bearings facilitates assembly and provides a convenient way to ground the brush terminals.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. British Patent 1,111,527 teaches a brush support with two brush arms of different length.

Allowable Subject Matter

11. Claims 48, 50, 72, and 74 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (703) 305-7066. The examiner can be normally contacted on Monday through Friday from 8:00 am to 5:00 pm. The facsimile number for the Group is (703)305-3431. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist at (703) 308-1782.

KIT

KIT

February 24, 1998



STEVEN L. STEPHAN
SUPERVISORY PATENT EXAMINER
GROUP 2100